

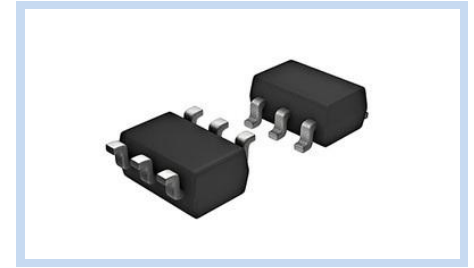
Transistor Dual NPN 45V 0.25W SOT-363

BC847-DW Series

MERITEK

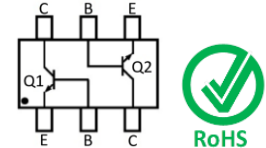
FEATURE

- No Mutual Interference between The Transistors
- Application: Switching and Amplifier



MECHANICAL DATA

- Case: SOT-363, Molded Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026



MAXIMUM RATING

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	45	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	100	mA
Peak Collector Current	I_{CM}	200	mA
Power Dissipation	P_{tot}	250	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	500	$^{\circ}C/W$
Junction Temperature	T_J	150	$^{\circ}C$
Storage Temperature Range	T_{stg}	-55 ~ +150	$^{\circ}C$

ELECTRICAL CHARACTERISTICS

Parameter- ON Characteristic		Conditions	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain	BC847ADW	$V_{CE}=5V, I_C=2mA$	h_{FE}	110	-	220	-
	BC847BDW			200	-	450	
	BC847CDW			420	-	800	
Collector-Emitter Saturation Voltage		$I_C=10mA, I_B=-0.5mA$	$V_{CE(SAT)}$	-	-	0.25	V
		$I_C=100mA, I_B=-5mA$		-	-	0.60	
Base-Emitter ON Voltage		$V_{CE}=5V, I_C=2mA$	$V_{BE(ON)}$	0.58	-	0.70	V
		$V_{CE}=5V, I_C=10mA$		-	-	0.77	
Parameter- OFF Characteristics		Conditions	Symbol	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage		$I_C=10\mu A$	$V_{(BR)CBO}$	50	-	-	V
Collector-Emitter Breakdown Voltage		$I_C=10mA$	$V_{(BR)CEO}$	45	-	-	V
Emitter-Base Breakdown Voltage		$I_E=1\mu A$	$V_{(BR)EBO}$	6	-	-	V
Collector Base Cut-Off Current		$V_{CB}=30V$	I_{CBO}	-	-	15	nA
Emitter Base Cut-Off Current		$V_{EB}=5V$	I_{EBO}	-	-	100	nA
Output Capacitance		$V_{CB}=10V, f=1MHz$	C_{ob}	-	-	4.5	pF
Parameter-Small Signal		Conditions	Symbol	Min.	Typ.	Max.	Unit
Current-Gain – Bandwidth Product		$V_{CE}=5V, I_C=10mA, f=100MHz$	f_T	100	-	-	MHz

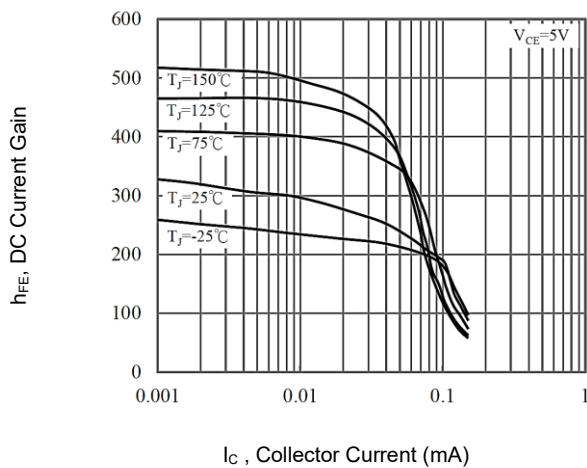
Note:

1. $T_A=25^{\circ}C$ unless otherwise noted

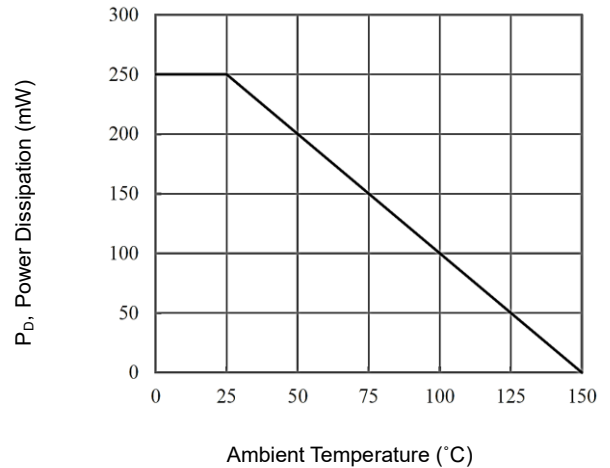
2. Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout

CHARACTERISTIC CURVES

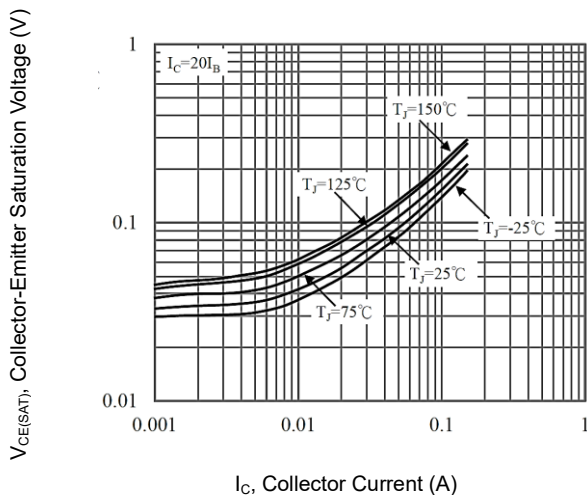
DC Current Gain



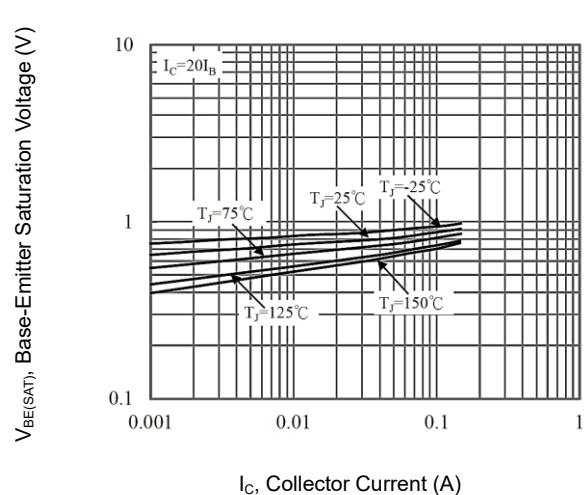
Power Derating Curve



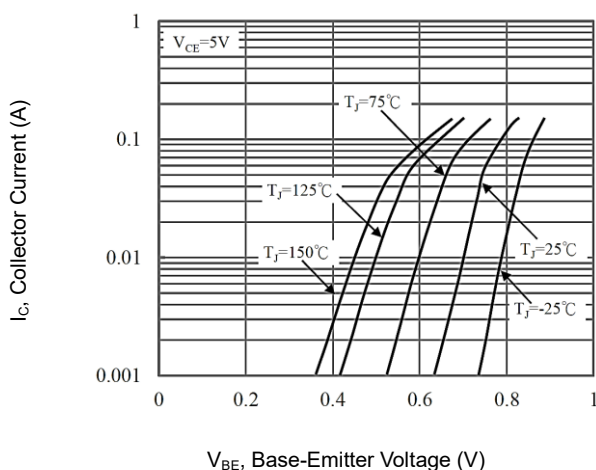
Collector-Emitter Saturation Voltage



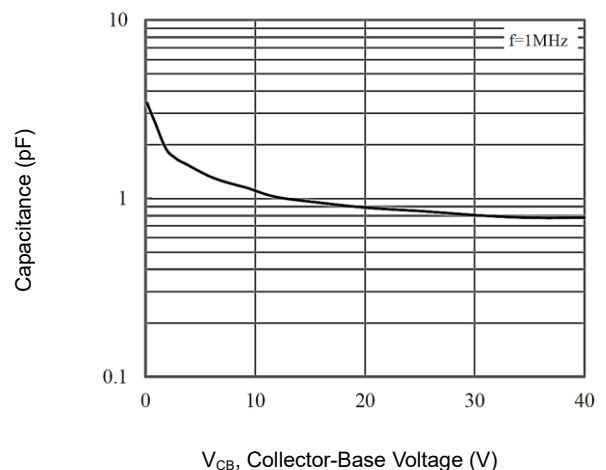
Base-Emitter Saturation Voltage



Collector Current vs. Base-Emitter Voltage



Capacitance Characteristics



Transistor Dual NPN

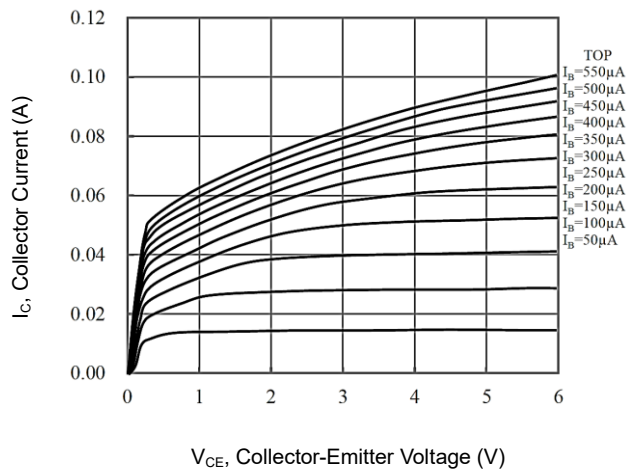
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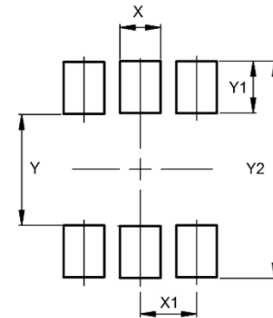
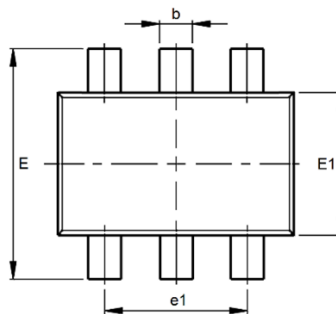
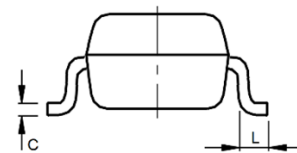
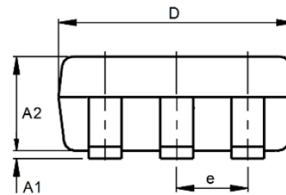
CHARACTERISTIC CURVES

Output Characteristics



DIMENSIONS

Item	Min (mm)	Max (mm)
A1	--	0.10
A2	0.90	1.00
b	0.10	0.30
c	0.10	0.25
D	1.80	2.20
e	0.65	
e1	1.30	
E	2.00	2.20
E1	1.15	1.35
L	0.15	0.40
X	0.42	
X1	0.65	
Y	1.30	
Y1	0.60	
Y2	2.50	



*Specifications subject to change without notice.